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US Appln. No. 10/008,509

### REMARKS

Claims 1-3, 5-9, 14-16, 18, 19, and 23-24 are currently pending in this application. Claims 12, 13, 21, and 22 have been canceled. Claims 1 and 16 have been amended. No new matter has been added. The amendments have merely included the limitations of dependent claims into independent claims.

The following remarks put the pending claims in condition for allowance. Applicants respectfully request reconsideration and the timely allowance of the pending claims.

#### 35 USC § 103(a) Rejection over the Combination of Carpenter et al. and Gannoe et al.

Claims 1-3, 5, 9-16, and 20-24 stand rejected under 35 U.S.C. 103(a) for allegedly being obvious over Carpenter et al., WO 01/50946, (hereinafter "Carpenter") in view of Gannoe et al., U.S. Pat. App. Pub. US 2002/0077532, (hereinafter "Gannoe").

Applicants respectfully traverse this rejection. The claimed invention, as amended, recites a segmented arm support apparatus for attachment to a surgical retractor, comprising:

- an articulating arm having a plurality of segments...;
- a cable extending through the passage of each segment;
- a manual device for variably tightening the cable, thereby causing the mating segments to be brought into tight frictional engagement and compressing the plating material; and
- a tissue stabilization device attached to the articulating arm, the stabilization device being lockable upon tightening the cable, wherein the stabilization device is removably attached to the segmented arm support apparatus, and

further including a movable socket to receive the stabilization device, wherein the movable socket is slidable along a plunger attached to an end of the cable and wherein the movable socket is biased against the plunger by a spring.

Thus, the present invention includes a segmented arm apparatus that is both capable of being variably tightened and wherein a stabilization device can be removably attached via a moveable socket that is slidable along a plunger attached to an end of the cable. The prior art fails to teach or suggest such an apparatus.

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Carpenter teaches a segmented arm apparatus that can be variably tightened. However, Carpenter fails to teach or suggest wherein a stabilization device can be removably attached to the segmented arm apparatus via a moveable socket. Carpenter teaches that a connector 42 is permanently attached to the proximal end of an appendage 20 or stabilizer (see page 7, lines 10-12). Ball 32 is connected to cable 30 via a shank (not enumerated) (see Fig. 3). In order to remove appendage 20 from the segmented arm, the shank must be forcibly dislodged from within ball 32. Further, Carpenter fails to teach a movable socket to receive appendage 20.

Gannoe fails to cure these deficiencies. Gannoe teaches a segmented arm 204 wherein a stabilization device 202 can be removably attached. Specifically, Gannoe teaches that stabilization device 202 includes a pin 242 that can be inserted into hold 246 in distal housing 248. The pin 242 is held in place by ball 254 on plunger 252 and by yoke 266 biased by spring 270 (see paragraphs [0096] and [0097] on page 7 of the application and Fig. 26). Thus, Gannoe fails to teach a moveable socket which receives the stabilization device.

The only component of Gannoe that could be considered a socket is distal housing 248 and it is not slidable along a plunger attached to the end of the cable. Distal housing 248 is not slidable in any direction along any element. It certainly is not slidable along a plunger. Further, the claims recite that the moveable socket is biased against the plunger by a spring. Gannoe fails to teach a spring that biases a moveable socket against a plunger.

The Office Action of September 14, 2004 states the "stabilization device of Gannoe is removably attached to the arm by a movable socket 248 slidable along a plunger 266 attached to the end of the cable and wherein the socket is biased against the plunger by a spring." Applicants believe this to be a complete mischaracterization of the teachings of Gannoe. Element 248 is not slidable along plunger 266. Element 248 is not slidable in any manner. Further, spring 270 does not bias element 248 against plunger 266. It is not understood by Applicants, how plunger 266 can be biased against element 248 when plunger 266 lies completely within element 248. Clearly, the plunger/spring system of Gannoe is completely different from that of the claimed invention. The mere

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fact that Gannoc teaches a spring and a plunger does not mean that Gannoe teaches a movable socket slidable along a plunger attached to an end of the cable wherein the movable socket is biased against the plunger by a spring. Gannoe fails to teach the plunger and spring in the orientation and arrangement with respect to a moveable socket that the claim requires. Therefore, the combination of Carpenter and Gannoe fails to teach or suggest all the limitations of the claims and accordingly cannot render the claims obvious.

Even if the combination of references did teach each and every limitation of the claims, which they do not, there is insufficient motivation to combine the references and such a combination would render the subject apparatus inoperable.

The segmented arm of Carpenter is specially designed to enable variable tightening. The segmented arm of Gannoe is specially designed to allow a stabilization device to be easily removably connected. A combination of the two references would require a complete reengineering of the special designs that is not permitted under a correct application of Section 103.

As described above, Gannoe teaches a segmented arm that is capable of removably receiving a stabilization device. However, the segmented arm of Gannoe is not capable of being variably tightened. Gannoe teaches a locking mechanism. The locking mechanism is comprised of cable 208, springs 216 and 218, block 215, holder 214, and handle 207. Springs 216 and 218 force block 215 against handle 207. In this position, cable 208 is effectively shortened and the segmented arm is effectively locked (see paragraph [0088]). On the distal end of the segmented arm, pin 242 of stabilization device 202 is effectively locked into position in distal housing 248 by the equilibrating forces provided by spring 270 and plunger 252 (see paragraphs [0096] and [0097]).

In order to unlock the arm and simultaneously unlock the stabilization device rendering it in position for removal, action must be taken. A user supplies force to actuator 212 on the proximal end of the segmented arm apparatus. Actuator 212 pushes holder 214 against block 215 and overcomes the biasing force of springs 216 and 218. Such actuation advances cable 208 forward distally, effectively lengthening cable 208 and rendering the segmented arm in a relaxed or unlocked state (see paragraph [0095]).

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On the distal end, force supplied to actuator 212 overcomes the equilibrating force supplied by plunger 252 and advances ball 254 distally thus compressing plunger 252. Pin 242 is forced into the enlarged distal end of opening 246 in distal housing 248 and the stabilization device can be removed from the distal housing by a slight force to dislodge ball 254 from circumferential recess 256 in pin 242 (see paragraph [0097]).

Thus, the removal mechanism of Gannoe on the distal end of the segmented arm relies on a positive force. The variably tightening mechanism of Carpenter fails to provide such a positive force. The variably tightening mechanism of Carpenter is comprised of draw bar 40, cable 30, and handle 12. Cable 30 includes threaded portion 31 on its proximal end (see page 8, lines 10-21). In order to tighten the segmented arm, a user turns handle 12 clockwise thus advancing threaded portion 31 of cable 30 proximally up draw bar 40. This effectively shortens the length of cable 30 within segments 16 and tightens the segmented arm. This has no effect on the distal end of the segmented arm wherein appendage 20 is attached. Turning handle 12 counterclockwise advances cable 30 distally and thus loosens the segmented arm again having no effect on the distal connection to appendage 20 (see page 9, lines 7-17).

Thus, the stabilization device release mechanism of Gannoe relies on the action of actuator 212. This action is not supplied by the variably tightening mechanism of Carpenter. Accordingly, a completely different methodology would need to be developed in order to render the combination operable if the attachment means of Carpenter were replaced with that shown by Gannoe, as the Office proposes.

It appears that the Office has simply picked two abstract ideas from two different references; the idea of a variably tightening segmented arm of Carpenter and the idea of a removably attached stabilization device of Gannoe, and combined the abstract teachings in order to allege obviousness. As such, the Office has not described how the teachings of the two references could be combined to render the claimed invention. Further, the Office seems to have relied upon improper hindsight reasoning.

When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied upon as

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evidence of obviousness. See, e.g. *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001).

One “cannot pick and choose among the individual elements of assorted prior art references to recreate the claimed invention.” One “has the burden to show some teaching or suggestion in the references to support their use in the particular claimed invention.” See *SmithKline Diagnostics, Inc. v. Helena Laboratories Corp.*, 859 F.2d 878, 8 USPQ2d 1468 (Fed. Cir. 1988).

Even when the level of skill in the art is high, the principle, known to one of ordinary skill, that suggests the claimed combination must be identified. In other words, the Office must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious. *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998).

It is error to reconstruct the patentee’s claimed invention from the prior art by using the patentee’s claim as a “blueprint.” When prior art references require selective combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight obtained from the invention itself. It is critical to understand the particular results achieved by the new combination. See *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 227 USPQ 543 (Fed. Cir. 1985).

Since the combination of references fail to teach or suggest all the limitations of the claims and since there is insufficient motivation to combine the references in the manner in which the Office proposes, the combination cannot render the claims obvious. Accordingly, Applicant’s respectfully request withdrawal of the rejection of the claims based on obviousness of the combination of Carpenter and Gannoe.

**35 USC § 103(a) Rejection over Carpenter et al. in view of Gannoe et al. and further in view of Leyden et al.**

Claims 6-8, 18, and 19 stand rejected under 35 U.S.C. 103(a) for allegedly being obvious over Carpenter in view of Gannoe and further in view of Leyden et al., U.S. Pat. 6,371,345, (hereinafter “Leyden”).

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The Office alleges that the combination of Carpenter and Gannoe teaches all the limitations of the claims except for specifying that the plating material is softer than the material forming the segments. The Office then relies on Leyden for the teaching of a compressible coating such as a thermoplastic on a ball member to increase frictional resistance between the mating surfaces. The Office Action alleges that one of ordinary skill in the art would combine the teachings "so that less force would be required to arrest relative motion of the segments." Applicants respectfully traverse this rejection.

As stated above, the combination of Carpenter and Gannoe fails to teach or suggest at least a segmented arm apparatus including a moveable socket to receive a stabilization device. Leyden fails to cure these deficiencies.

Leyden teaches an adjustable mounting device for mounting a portable electronic device such as a CD player in such a manner that allows for convenient adjustment of the position of the portable electronic device. The adjustable mounting device includes a ball member 12 that fits in plunger member 24. The plunger member can be placed into a locked position to lock the portable electronic device into a desired position. The ball member is coated with a compressible coating that reduces the force that must be applied between the plunger member and the ball member to lock the device into place. Leyden fails to teach or suggest a manual device for variably tightening a cable. In fact, Leyden fails to teach or suggest a segmented arm or cable of any kind. Thus, the combination of Carpenter, Gannoe, and Leyden in any order fails to teach or suggest each and every element of the invention.

Moreover, there is insufficient motivation to combine the references. As stated above, Gannoe teaches away from coating the segments with a high friction material that is softer than the segment material.

It is improper to combine references where the references teach away from their combination. MPEP 2146 discussing *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983)

Additionally, the friction enhancing layer of Gannoe and the compressible coating of Leyden serve completely different purposes and solve completely different problems. The ball member-plunger member of Leyden functions completely different from the

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adjacent link system of Gannoe. In Leyden, the plunger applies a gripping force around the ball member to prevent the ball member from rotating within the plunger (see Fig. 4b and page 4, lines 4-15 of the specification). In Gannoe, the links are forced together by locking the cable into a tightened position. Gannoe teaches that the friction enhancing layer reduces looseness in the segmented arm in the locked position and therefore reduces sliding between adjacent links (see paragraph [0090]). There is no tendency for the links to rotate with respect to one another. The high friction material acts to prevent slipping. Thus, one of ordinary skill in the art would not be motivated to replace the hard high frictional layer material of Gannoe with the soft compressible coating of Leyden since the layers serve different functions, the prevention of slipping between adjacent members forced together in pure compression versus the reduction of a gripping force necessary to prevent rotation.

Hence, there is insufficient motivation to combine the teachings of Leyden with the combination of Carpenter and Gannoe to establish *prima facie* obviousness. As such, the Office's rejection fails to teach or suggest each and every limitation of the claimed invention and fails to provide proper motivation for combining the teachings of the prior art. Accordingly, Applicants respectfully request that the rejection of claims 5-8, 18, and 19 under 35 U.S.C. § 103(a) be withdrawn and the timely allowance of the pending claims.

#### **Notice of References Cited**

The Office has applied a new reference in the most recent Office Action. It is Applicant's belief that this reference, WO 01/50946, has not been previously supplied in a PTO 1449 or in an IDS submitted by Applicants. Accordingly, Applicant's respectfully request a PTO 1449 listing the applied reference be mailed with the Office's next correspondence.

#### **CONCLUSION**

Applicants believe this response to be a full and complete response to the Office Action. In view of the foregoing, Applicants respectfully request reconsideration and allowance of claims 1-3, 5-9, 14-16, 18, 19, and 23-24. As the application is believed to

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be in condition for allowance, Applicants respectfully request a Notice of Allowability.  
The Examiner is invited to contact the undersigned representative should any further  
issues arise

Respectfully submitted,

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Date: December 10, 2004

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